

# Effect Of Acquisition On Banks' Liquidity In Nigeria

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**Abstract:** *The banking reform introduced in 2004 gave room for banks merger or acquisition for the purpose of strength banking sector in the country. This study measures the effect of acquisition for the period of 2001 to 2014 by using audited financial statement of selected banks in Nigeria. Assets turnover ratio is used to measure the liquidity of the bank's profitability. Data were analyzed through the use of regression (panel data). Our findings indicate that there is negative relation between liquidity and banks' acquisition. profitability is positively correlated to liquidity. Cost to income have negative effect on liquidity. It was concluded that acquisition have negative effect on liquidity of banks in Nigeria banking sector.*

**Keywords:** *Acquisition, Liquidity and Nigeria Banking sector*

## I. INTRODUCTION

Finance world is expanding which leads to trade agreement and transaction across the nation (Badreldin and Kalhoefer, 2009). Acquisition assist banking sector to improve (through expansion) across Nations. Previous studies on acquisition focused on United State (being the first nation to witness banks merger and acquisition), Europe (took place after the consolidation of European countries and currency) and then other countries (especially the emerging and developing countries) around the globe (Altunbas and Ibanez, 2007; Lindblomatel and Von Koch, 2002; Amel et al., 2002 and Hubbard, 2001). Merger or acquisition provides rooms for banking sectors development to meet global demand and likewise tackle economic problem.

Nigeria has experienced periods of boom and bust cycle in the past. in 1986, Nigeria implemented the structural adjustment program (SAP) and deregulation of the financial sector by the central bank of Nigeria (CBN) (Hesse, 2007 and CBN, 2011). This has brought about changes in terms of number of financial institutions, ownerships, profit and market based. The implementation and deregulation, in term of financial institution, gave room for increase in the number of banks from 40 to 120 between 1989 to 1992 (CBN, 2016). Between 1993 to 1995, the numbers declined to 89 due to

insolvent and financial distress which occur (Capiro and Klingebiel, 1996 and CBN, 2016). The number of financial institution later reduced to 25 between 2001 to 2004 due to increase in the minimum capital based from 2 billion naira to 25 billion naira (Jimmy, 2008). The previous CBN governor, Soludo (2004) defended the increase in minimum base capital as a tool to restore public confidence in banks, build strong, competent and competitive banks in the global arena. Walter and Uche (2005) and Joshua (2010) supported the stand of the CBN governor (Soludo).

On August, 2009, the CBN declared that five (5) banks out of the 25 banks are insolvent due to inadequate capital ratio and reckless lending. On October, 2009, two (2) banks are declare insolvent (Joshua, 2010). Merger and acquisition still occurs till date and also, new banks are coming up. Currently, only 22 banks exist in Nigeria due to merger and acquisition.

This paper is motivated due to the ongoing acquisition of banking sectors in Nigeria as a result of the CBN reform in 2004. The aim of the research is to analyse the effect of acquisition on banks' profitability in Nigeria for the period of 14 years (2001-2014) with the use of audited financial report of the selected banks to answer the research question; there is negative effect of acquisition on banks profitability.

## II. LITERATURE REVIEW

### A. DEFINITION

Acquisition is the process whereby a company acquire another company(s) (Gaughan, 2011; Jimmy, 2008 and Sudarsanam, 2003). This is when a company A acquires another company B, company A retains its name and acquires all the assets and liabilities of company B which cease to exist.

Country's banking sector restructuring is motivated by various factor but all have a common goal in mind. For example, United State of America witnessed its waves of merger and acquisition from 1897 to 2004. This led to combine unthinkable of AOL and Time warner, Vodafone and Mannesmann, Exxon and Mobil, Boeing and McDonnell Douglas (Brealey et al., 2006; Sidel, 2003 and Depamphilis, 2001).

### B. EVOLUTION OF NIGERIAN BANKING SYSTEM

Banking operation in Nigeria went through phases which started form the period of expatriates control later went through different eras (free banking era to the era of post bank consolidation). The sector is one of the dynamic sectors in Nigeria which responds to policy adjustments of Government and also mobile funds from surplus spending units to the deficit spending units in the economy for investment (Jimmy, 2008). Somoye and Onabanjo (2008) classified the first era in the period of Bank Regulation as expansion, consolidation and post consolidation stage which began in 1959-1969. In 1959, the Nigeria banking witnessed a remarkable history because it was the year CBN was established (Hesse, 2007). And also went on to say that the period 1959-1969 marked the establishment of formal money, capital market and portfolio management in Nigeria and also the era in which company act were established. In 1958, the minimum paid-up capital was set as four hundred thousand naira. The second era started in 1990s, due to increase in the number of banks in Nigeria and failure of many banks not to meet the requirement brought about increased in the minimum requirement to five hundred million naira later to two billion naira which resort to the reduction in the number of banks. In 2001, the banking sector was fully deregulated with the adoption of universal banking system which led to merchant bank operation and commercial banking system merged towards the consolidation programme in 2004 to address the fragile nature of the banking system (Somoye and Onabanjo, 2008)

## III. EMPIRICAL REVIEW

Various authors has carried out research on merger and acquisition on banks performance across various countries. According to Kaur and Kaur (2010), merger or acquisition has help to improve efficiency and banking sector in India for the period of 1990 to 2008 for pre and post effect. Gourlay et al. (2006) also did his research work in India, similar findings is discovered that merger or acquisition improved efficiency of banking sector.

In Europe, Vennet (1996) studied the impact of merger and acquisition on European Union banking sector for a period of 1988 to 1993, found that merger and acquisition improve the efficiency of banks that participated. Altunbas and Ibanez (2007) discovered that return of capital tends to be improve from the European Union banking sector for sample period of 1992 to 2001.

## VI. METHODOLOGY

The primary aim of this study is to analyse the effect of acquisition on banks' liquidity in Nigeria with the use of secondary data (the use of audited financial statement of each selected banks for the period of 2001 to 2014). All the banks that have been involved in acquisition and has been in existence since 2001 till date will be used.

### RESEARCH HYPOTHESIS

For the purpose of carrying out the research work, the following null hypothesis was formulated:

$H_1$  Banks' acquisition does not have any effect on banks' liquidity

$H_2$  Profitabilty has no relationship with liquidity of banks

$H_3$  there is no relationship between cost to income and bank's liquidity

### MODEL SPECIFICATION

The model designed to determine the effect of acquisition on banks' liquidity is stated below;

$$ATR = f(DY, NPR, CIR)$$

The variables are classified into dependent, independent and control variables. The table below shows the measurement of variables.

Summary of Variables and Calculation

VARIABLE	MEASUREMENT	ABBREVIATION
DEPENDENT VARIABLE		
Assets Turnover Ratio	(Sales/total assets)*100	ATR
Independent Variable		
Dummy Variables	Before acquisition, 0 after first acquisition, 1, next acquisition, 2 etc	DY
CONTROL VARIABLES		
Cost to Income	(Operating expenses/ Operating income)*100	CIR
Net Profit Ratio	(Net profit/ Sales)*100	NPR

Table 1

In econometric model

$$ATR_{IT} = \alpha + \beta_1 DY_{IT} + \beta_2 CIR_{IT} + \beta_3 NPR_{IT} + \mu_{IT}$$

Where 'i' denotes the nth banks (i=1 to 8), and the subscript t denotes the tth year (t= 2001 to 2014),  $\mu$  is the error term. For model estimation, panel data test is one of fixed effect or random effect model. To determine which of the model (fixed effect model or random effect model) to choose from, Hausman test will use. If the null hypothesis is accepted, random effect will be use, if rejected, fixed effect will be use. EViews will be used to analysis the above model.

**EMPIRICAL ANALYSIS**

The empirical analysis will be classified into Pre-test analysis (correlation and Descriptive analysis) and Regression analysis.

**PRE-TEST ANALYSIS**

Correlation coefficient shows the relationship between variables. it is used to test if the variables are auto correlated. From the analysis (see table 2), multi-co linearity is not found. It also use to indicate the direction of variables on each other. A negative correlation is expected between the dependent and independent variable.

	ATO	DY	NPR	CIR
ATO	1.000000			
DY	-0.457905	1.000000		
NPR	0.222355	-0.001353	1.000000	
CIR	-0.263132	-0.013793	0.029769	1.000000

Source: Calculation from the audited financial statement of each selected banks

Table 2: Correlation Coefficient

The descriptive statistic shows the mean, median, maximum and minimum for the variables (ATO, DY, NPR and CIR). It also shows the kurtosis (measures the peakedness of the variables), Skewness and Jarque-Bera test. The Kurtosis from table 3 indicate all the variables have a high peak (higher than three). Skewness is used to determine the probability distribution of random variable around the mean. Jarque-Bera test for the goodness of fit in data distribution for the purpose of ensuring that skewness and kurtosis are normally distributed. All variables are normally distributed at 5% significance level.

	ATO	DY	NPR	CIR
Mean	10.89227	0.991071	-714.0592	129.3476
Median	10.70486	1.000000	21.69159	79.47050
Maximum	25.46131	3.000000	150.2257	4522.799
Minimum	0.053173	0.000000	-81900.00	0.122100
Std. Dev.	4.521592	0.832834	7740.618	425.8914
Skewness	0.471123	0.768594	-10.44010	9.966780
Kurtosis	3.868779	3.301175	110.0001	103.0008
Jarque-Bera	7.665496	11.45037	55463.39	48521.71
Probability	0.021650	0.003263	0.000000	0.000000

Source: Calculation from the financial statement of each SME's

Variables	ATR
Acquisition Effect	-2.5050 (-5.8801)***
Net Profit Ratio	0.0001 (2.9295)***
Cost to Income Ratio	-0.0029 (-3.5201)***

Constant	13.8504 (24.5944)***
Total Panel (unbalanced)	112
Observations	18.1456***
F-statistic	0.3351
R-Squared	0.3167
Adjusted R-Squared	0.8637
Durbin-Watson	

Model is run on the bases of panel data for the sample size of 2001-2014 for a cross-section of 8 banks.

The t-statistic and the p-value is used to significance level. P-value is parentheses at \* significance at 10%; \*\* significance at 5% and \*\*\* significance at 1%.

Table 3: Pooled Regression - Assets Turnover Ratio

NOTE: The sample period, 2001 to 2014 is used in the calculation of summary statistics for the 8 selected banks.

**REGRESSION ANALYSIS**

The paper focus on identifying the effect of bank's acquisition on the liquidity position of banks in Nigeria. From table 3(pooled regression), the r-square indicates the independent and the control variable account for 33.5% of the what affect liquidity measure by asset turnover ratio. The t-statistic and t-probability indicate that all the variables are statistical significant to Liquidity at 1%, 5% and 10% level of significance. The null hypothesis is to be rejected and alternate hypothesis will be accepted. The effect of acquisition measured by DY has a negative relationship to liquidity. Cost to income shows a negative relationship to liquidity while a positive relationship is shown between the profitability and liquidity. As explained earlier that panel data is about choosing between the fixe effect and the random effect, the pooled regression will not be explain in full.

The Fixed effect, as shown in table 4, effect of bank acquisition (DY) has a negative relationship to liquidity (ATR). This means that as banks acquire another bank, the liquidity of the bank is affected. that is, a change in liquidity bring about reduction in bank acquisition. If banks wants to improve liquidity, they should not embark on any bank acquisition. This finding is similar result found in Straub (2007), Badreldin and Kalhoefer (2009) and Ebimobowe and Shophia (2011) and contradict the finding of Vennet (1996) and Yener and David (2004). Profitability has a positive relationship with liquidity from or finding. This implies that a percentage increase in profitability bring about 1.98% increase in liquidity. This correspond with the finding of Agbada and Osuji (2013) and Adebayo et al. (2011). As expected, cost to income has negative impact on liquidity which is in line with the research work of Jimmy (2008).

Variables	ATR
Acquisition Effect	-2.6205 (-5.7704)***
Net Profit Ratio	0.000089 (1.9862)**
Cost to Income Ratio	-0.0019 (-2.2511)**
Constant	13.7983 (24.2859)***
Total Panel (unbalanced)	112

Observations	8.0572***
F-statistic	0.4437
R-Squared	0.3887
Adjusted R-Squared	0.9593
Durbin-Watson	

Model is run on the bases of panel data for the sample size of 2001-2014 for a cross-section of 8 banks.

The t-statistic and the p-value is used to significance level.

P-value is parentheses at \* significance at 10%; \*\* significance at 5% and \*\*\* significance at 1%.

Table 4: Fixed Effect - Assets Turnover Ratio

The r-square and adjusted r-square shows 44.4% and 38.9% respectively. This indicate that the independent variable (DY) and the control variable (NPR and CIR) explained 44% of factor that affect the dependent variable.

Under the F-statistic tested for where to accept or reject the null hypothesis jointly. Since the f-statistic of 8.05 is greater than the f-tabulated of 2.68 (calculation shown below), we reject the null hypothesis and accept the alternate hypothesis.

$$F_{\alpha(k-1, n-k)}$$

$$F_{0.05(4-1, 112-4)}$$

$$F_{0.05(3, 108)}$$

Using Gujarati and Porter (2009) table for  $F_{0.05(3, 108)}$ , the result below is derived  
= 2.68

Using the probability value of the F-statistic to test for joint hypothesis, we reject the null and accept the alternate hypothesis since the p-value (f-statistic) is lesser than the level of significant of 5% ( $0.000 < 0.05$ ).

The DW test tested for presence of autocorrelation (both the upper and lower value of observation). The DW statistic is 0.96 which does not fall between the lower and upper value of 1.462 and 1.625 respectively. This indicate the model are not auto correlated and indicate is good for policy making.

Using random effect method of analysis (see table 5) is in line with regression result of the fixed effect confirming the apriority expectation based on the reject or do not reject result.

DY has a negative relationship to liquidity (ATR). This means that as banks acquire another bank, the liquidity of the bank is affected. that is, a change in liquidity bring about reduction in bank acquisition. If banks wants to improve liquidity, they should not embark on any bank acquisition. This finding is similar result found in Straub (2007), Badredin and Kalhoefer (2009) and Ebimobowei and Shophia (2011) and contradict the finding of Vennet (1996) and Yener and David (2004). Profitability has a positive relationship with liquidity from or finding. This implies that a percentage increase in profitability bring about 1.98% increase in liquidity. This correspond with the finding of Agbada and Osuji (2013) and Adebayo et al. (2011). As expected, cost to income has negative impact on liquidity.

Variables	ATR
Acquisition Effect	-2.5354 (-6.0189)***
Net Profit Ratio	0.00012 (2.6919)***

Cost to Income Ratio	-0.0026 (-3.1759)***
Constant	13.8213 (22.6334)***
Total Panel (unbalanced)	112
Observations	16.8801***
F-statistic	0.3192
R-Squared	0.3003
Adjusted R-Squared	0.8918
Durbin-Watson	

Model is run on the bases of panel data for the sample size of 2001-2014 for a cross-section of 8 banks.

The t-statistic and the p-value is used to significance level.

P-value is parentheses at \* significance at 10%; \*\* significance at 5% and \*\*\* significance at 1%.

Table 5: Pooled Regression - Assets Turnover Ratio

The r-square and adjusted r-square shows 31.9% and 30% respectively. This indicate that the independent variable (DY) and the control variable (NPR and CIR) explained 32% of factor that affect the dependent variable.

Under the F-statistic tested for where to accept or reject the null hypothesis jointly. Since the f-statistic of 16.88 is greater than the f-tabulated of 2.68 (calculation shown below), we reject the null hypothesis and accept the alternate hypothesis.

$$F_{\alpha(k-1, n-k)}$$

$$F_{0.05(4-1, 112-4)}$$

$$F_{0.05(3, 108)}$$

Using Gujarati and Porter (2009) table for  $F_{0.05(3, 108)}$ , the result below is derived  
= 2.68

Using the probability value of the F-statistic to test for joint hypothesis, we reject the null and accept the alternate hypothesis since the p-value (f-statistic) is lesser than the level of significant of 5% ( $0.000 < 0.05$ ).

The DW test tested for presence of autocorrelation (both the upper and lower value of observation). The DW statistic is 0.89 which does not fall between the lower and upper value of 1.462 and 1.625 respectively. This indicate the model are not auto correlated and indicate is good for policy making

As stated earlier, Hausman test will be use to test the random effect against the fixed effect to determine which model effect to use for decision making. The decision rule for rejecting random effect result is when the p-value of the hausman test is less than the level of significance of 5%, otherwise we accept. From our hausman test, we accept the random effect since it is less than the probability of the hausman test.

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	8.355720	3	0.0392**

Source: Banks financial statement and own calculation. P-value in parentheses; \* significance at 10%; \*\* significance at 5% and \*\*\* significance at 1%.

Table 6: Correlated Random Effects - Hausman Test

#### IV. CONCLUSION AND RECOMMENDATION

##### A. CONCLUSION

The bank recapitalization introduced which gives room for banks merger and acquisition has restored public confidence in the Nigeria banking system. Banks that undergone acquisition have not reduced their liquidity risk as planned by the Central Bank of Nigeria (CBN). The measurement of liquidity of eight selected banks that undergone acquisition stage(s) during the period of 2001 to 2014 was carried out by calculating their asset turnover ratio. The analysis suggest a negative effect of acquisition (measured by DY) in Nigeria banking sector. This implies that the CBN decision is to expand bank branches and restoration of public confidence.

Form our finding, it is advisable for banks not to rush into but to analysis the effect of acquisition for both the short and long run. It is also important for manager of banks not to see bank acquisition as a room of reducing competition. Bank manager should take note of other external factor which may occur in future (for example: devaluation of currency by CBN, change of government policy and others).

##### B. RECOMMENDATION

The following are recommended from the findings of this research work;

Adequate and efficient strategy should be put in place before embarking on any form of acquisition in order to promote market discipline and self regulation.

Regulatory bodies should ensure that only well sound banks (not in liquidity problem) should embark on acquisition to prevent liquidity in the long run.

External auditor of banks should be mandatory to state clearly the liquidity position of the banks.

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